REMARKS

With the present amendment, claims 1, 13 and 21 have been amended. Claims 26-29 have been added.

Claims 1, 2, 13, 15, 21, 23, and 24 were rejected under 35 U.S.C. § 102(b) as being anticipated by Erpelding et al. (U.S. Patent Number 5,606,477, hereinafter Erpelding). Claims 6, 7, and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Erpelding in view of Oberg (U.S. Patent Number 4,991,045).

Erpelding provides a slider suspension with three layers including a copper alloy conductor layer, a polyimide dielectric layer and a stainless steel stiffener layer. The polyimide dielectric layer is .0006 cm thick. The thickness of this layer is used to absorb vibrational energy in the suspension through sheering of the polyimide across its thickness.

Oberg discloses a suspension assembly that utilizes plastic and steel pieces. Under one embodiment of Oberg, the plastic pieces are attached to the steel pieces using plastic stakes that extend from the plastic pieces through holes in the steel pieces. Heads are formed on the stakes by melting the plastic either using ultrasonic frequencies or heat. In a second embodiment, the steel is placed within a wall around the edge of the plastic and the wall is then melted over the edge of the steel. Oberg does not show or suggest applying the plastic material to the steel pieces using an adhesive.

Independent claim 1 is directed to a suspension assembly that includes a metal material defining a portion of the suspension and a composite material having a higher stiffness to weight ratio than the metal material. The composite material is bonded directly to the metal material by an adhesive such that the same adhesive layer is bonded to both the composite material and the metal material. The adhesive layer is thinner than .00025 cm.

Like claim 1, independent claims 13 and 21 include

limitations to bonding a composite material directly to a metal layer of a suspension assembly using a single adhesive layer. In claims 13 and 21, the adhesive layer is thinner than .00025 cm.

The combination of Erpelding and Oberg does not show or suggest the invention of claims 1, 13, or 21, because together these references do not suggest adhesively applying a composite material directly to a metal material on a suspension using a single layer of adhesive that is thinner than .00025 cm.

In Erpelding, the thickness of the polyimide layer is listed as being .0006 cm. Erpelding uses such a thick layer of polyimide in order to absorb vibrational energy through the sheering of the polyimide layer across its thickness (See col. 7, lines 24-27). Because the polyimide layer is absorbing energy, those skilled in the art would not be motivated to use a thinner polyimide layer in Erpelding since that would reduce the amount of energy that can be absorbed by the polyimide layer. As such, Erpelding does not show or suggest using an adhesive layer that is thinner than .00025 cm. to bond a metal layer to a composite layer.

Similarly, Oberg does not show or suggest adhesively applying a composite material directly to a metal material, but instead shows that the composite material should be connected to the metal material using heat staking.

Since neither Erpelding nor Oberg show the use of an adhesive layer that is thinner than .00025 cm to bond a composite material to a metal material in a suspension, their combination does not show or suggest the invention of claims 1, 13 and 21. As such, claims 1, 13 and 21 and claims 2, 6, 7, 15, 16, 23 and 24, which depend therefrom, are patentable over the cited art. Reconsideration and allowance of the claims is respectfully requested.

New independent claim 26 is directed to a suspension assembly that includes a metal material defining a portion of the

suspension and a composite material having a higher stiffness to weight ratio than the metal material. The composite material is bonded to the metal material by an adhesive such that the adhesive does not absorb a significant amount of energy during bending of the suspension.

None of the cited references show a composite material bonded to a metal material by an adhesive such that the adhesive does not absorb a significant amount of energy during bending of the suspension. As such, claim 26 and claim 27 are patentable over the cited art.

New independent claim 28 provides a suspension with a suspension body formed from a layer of metal. A composite stiffener formed from a composite material is bonded directly to a portion of the suspension by an adhesive layer. The adhesive layer has a thickness such that the adhesive layer does not dampen motion of the suspension.

None of the cited references show a composite material bonded to a layer of metal in a suspension by an adhesive layer that does not dampen motion of the suspension. As such, claims 28 and 29 are patentable over the cited art.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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